CLAIMS:

1. A network analyzing device which analyzes network properties of a device under test to which modulated signals are applied, said device comprising:

    a demodulator which demodulates data contained in output signals from said device under test;

    a reference-signal generator which generates said modulated signals based on data that has been demodulated by said demodulator and outputs said modulated signals as reference signals; and

    an analyzer which analyzes said network properties of said device under test by comparing or referencing the output signals of said device under test and said reference signals.

2. The apparatus according to claim 1, wherein said analyzer analyzes the frequency properties of said device under test by: modeling said device under test with a filter; fixing the pulse response of said filter from said output signals of said device under test and said reference signals; and performing a Fourier transform of said pulse response.

3. The apparatus according to claim 1, wherein said analyzer analyzes the electrical power properties of said device under test by: detecting the amplitude ratio of said output signals of said device under test and said reference signals; and analyzing the correlation between the amplitude of said output signals of said device under test and said amplitude ratio.

4. The apparatus according to claim 1, wherein said analyzer analyzes the electrical power properties of said device under test by: detecting the phase difference between said output signals of said device under test and said reference signals; and analyzing the correlation between the amplitude of said output signals of said device under test and said phase difference.

5. The apparatus according to claim 1, wherein said analyzer analyzes the amplitude noise properties of said device under test by: detecting the amplitude difference

between said output signals of said device under test and said reference signals; and performing a Fourier transform of said amplitude difference.

6. The apparatus according to claim 1, wherein said analyzer analyzes the phase noise properties of said device under test by detecting the phase difference between said output signals of said device under test and said reference signals; and performing a Fourier transform of said phase difference.

7. The apparatus according to claim 1, wherein said modulated signals are digital modulated signals, and said data is digital data.

8. A network analyzing method for analyzing network properties of a device under test to which modulated signals are applied, said method comprising:

        modulating data contained in output signals of said device under test to
                produce demodulated data;

        generating modulated signals based on said demodulated data;

        outputting said modulated signals as reference signals; and

        analyzing said network properties of said device under test by comparing or
                referencing said output signals of said device under test and said
                reference signals.

9. The method according to claim 8, wherein said network properties analyzed are the frequency properties of said device under test and wherein said analyzing comprises: modeling said device under test with a filter; fixing the pulse response of said filter from the output signals of said device under test and said reference signals; and performing a Fourier transform of said pulse response.

10. The method according to claim 8, wherein said network properties analyzed are the electrical properties of said device under test and wherein said analyzing comprises: detecting the amplitude ratio of said output signals of said device under test and said reference signals; and analyzing the correlation between the amplitude of said output signals of said device under test and said amplitude ratio.

11. The method according to claim 8, wherein said network properties analyzed are the electrical properties of said device under test and wherein said analyzing comprises: detecting the phase difference between said output signals of said device under test and said reference signals; and analyzing the correlation between the amplitude of the output signals of said device under test and said phase difference.

12. The method according to claim 8, wherein said network properties analyzed are the amplitude noise properties of said device under test and wherein said analyzing comprises: detecting the amplitude difference between said output signals of said device under test and said reference signals; and performing a Fourier transform of said amplitude difference.

13. The method according to claim 8, wherein said network properties analyzed are the phase noise properties of said device under test and wherein said analyzing comprises: detecting the phase difference between said output signals of said device under test and said reference signals; and performing a Fourier transform of said phase difference.

14. The method according to claim 8, wherein said modulated signals are digital modulated signals, and said data are digital data.